

TMDL IMPLEMENTATION PLAN

SUWANNEE RIVER BASIN

Overview of Suwannoochee Creek Watershed Plan

The Suwannoochee Creek watershed (HUC10 #0311020103) is located in the Suwannee River basin in Southeast Georgia's Clinch and Echols Counties. The local governments involved in improving the Suwannoochee Creek Watershed are Clinch and Echols Counties. Also involved in the effort are the Southeast Georgia Regional Development Center (SEGa RDC) in Waycross and the Georgia Department of Natural Resources' Environmental Protection Division (GADNR-EPD).

Having been determined to be an impaired water body by the State of Georgia, the Suwannoochee Creek from Lee's Bay to the Suwannee River is classified as *not supporting* its designation as fishing water and has an impacted area of eleven miles. The Total Maximum Daily Load (TMDL) Implementation Plan for the Suwannoochee Creek watershed is a collaborative effort of the GADNR-EPD and the SEGa RDC. A TMDL is the calculation of the maximum amount of a particular pollutant that a water body, river, or stream can receive and still be safe, healthy, and meet Georgia water quality standards.

According to the Suwannoochee Creek Watershed Total Maximum Daily Load (TMDL) Implementation Plan, the water body suffers from one impairment, Metal Contaminant/Cadmium (Cd). To improve the water quality of the Suwannoochee Creek watershed, the TMDL Implementation Plan suggests an 83% reduction in chronic nonpoint source contamination and a 61% reduction in acute nonpoint source contamination in the Suwannoochee Creek.

Sources of Cadmium in the Suwannoochee Creek Watershed

The Cadmium (Cd) in the Suwannoochee Creek watershed can be attributed to numerous nonpoint sources. These sources include aerial and broadcast application of chemicals and fertilizers, contaminated humus, rural development, spill/discharges of raw sewage, and unchecked runoff from land disturbing activities. Also, improper methods of trash collection and disposal, improper collection and disposal of fluids and materials associated with mechanical repairs, decomposing tobacco products, and protective coatings and/or coverings on metals and plastics are all contributing to the Cadmium (Cd) contamination in the Suwannoochee Creek watershed.

Developing the Plan and Stakeholder Involvement

The SEGaRDC has worked closely with GADNR-EPD to develop the TMDL Implementation Plan for the Suwannoochee Creek watershed. Each agency has been diligent in making sure that the strategy includes an action plan, education/outreach activities, stakeholders, pollutant sources, and potential funding resources. Stakeholders, including local government officials, landowners, industrial representatives and interest groups, have played a vital role in the plan's preparation. In fact, needed input was received during a public meeting held December 11, 2002, that was attended by representatives from the interest group River Keepers. Stakeholders offer valuable information and data regarding their community and the impaired water bodies and can provide insight and/or implement management measures.

Monitoring Plan

The monitoring plan will determine the effectiveness of the target TMDL and the management measures being implemented to meet water quality standards. Water quality testing is scheduled to begin in 2003, as is the development of a Storm Water Pollution Prevention Plan.

TMDL IMPLEMENTATION PLAN

SUWANNEE RIVER BASIN

Overview of Suwannee Creek Watershed Plan

Management Practices

The Implementation Plan lists management measures that have been or will be implemented to achieve water quality standards and the load reductions established in the TMDL. The management measures, including regulatory or voluntary actions or other controls by govern

ments or individuals, specifically apply to the Dissolved Oxygen in the Suwannee Creek watershed. The following management practices are included in the TMDL Implementation Plan:

- Herbicide and pesticide poison care disposal and management program
- Agricultural and forestry best management practices
- Power equipment, commercial, industrial, and personal product care disposal and management
- Household cleaner care disposal and management program
- Spill/discharge control and cleanup program
- Stream management zones
- Storm water pollution prevention plan (SWPPP)
- Georgia air quality act
- Georgia comprehensive solid waste management act
- Georgia hazardous waste management act

Projected Attainment Date

The projected date to attain and maintain water quality standards in the Suwannee Creek watershed is 2012, which is within 10 years of the acceptance of the TMDL Implementation Plan by the Environmental Protection Division.

Conclusion

TMDL Implementation Plans are platforms for establishing a course of actions to restore the quality of impaired water bodies in a watershed. They are intended as a continuing process that may be revised as new conditions and information warrant. Procedures will be developed to track and evaluate the implementation of the management practices and activities identified in the plans. Once restored, appropriate management practices and activities will be continued to maintain the water bodies. Through this intergovernmental partnership and the collaboration with the private stakeholders, the Suwannee Creek watershed TMDL Implementation Plan is sure to succeed.

STATE OF GEORGIA TMDL IMPLEMENTATION PLAN WATERSHED APPROACH

SUWANNEE RIVER BASIN

Local Watershed Governments

SOUTHEAST GEORGIA RDC

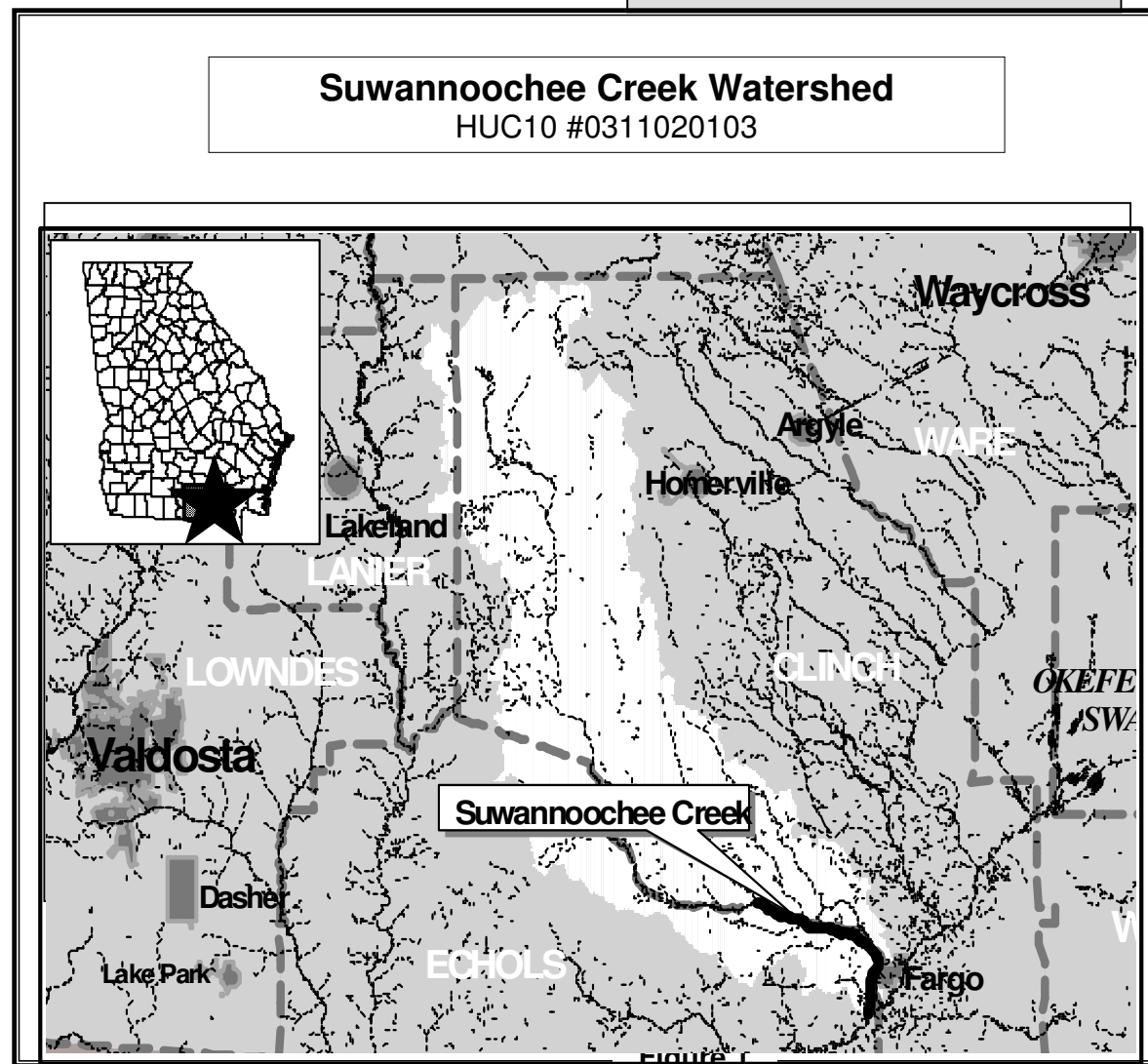
Clinch County

Echols County

TMDL Implementation Plans are platforms for establishing a course of action to restore the quality of impaired water bodies in a watershed. They are intended as a continuing process that may be revised as new conditions and information warrant. Procedures will be developed to track and evaluate the implementation of the management practices and activities identified in the plans. Once restored, appropriate management practices and activities will be continued to maintain the water bodies. **With input from appropriate stakeholder groups, a TMDL Implementation Plan has been developed for a cluster of impaired waterbodies/streams and the corresponding pollutants.** The impaired waterbodies are located in the same watershed/sub-basin identified by a HUC10 code (Figure 1).

This Implementation Plan addresses an action plan, education/outreach activities, stakeholders, pollutant sources, and potential funding resources affecting the sub-basin. In addition, the Plan describes (a) regulatory and voluntary practices/control actions (*management measures*) to reduce target pollutants, (b) milestone schedules to show the development of the management measures (*measurable milestones*), (c) a monitoring plan to determine the efficiency of the management measures and measurable milestones, and (d) criteria to determine whether substantial progress is being made towards reducing pollutants in the impaired waterbodies. The overall goal of the Plan is to define a set of actions that will help achieve water quality standards in the state of Georgia. Following this section is information regarding individual impaired streams.

Watershed: Suwannee Creek
HUC10: #0311020103



Impaired Waterbody*	Impaired Stream Location	Impairment
1. Suwannee Creek	Lee's Bay to Suwannee River	Metal Contaminant/Cadmium (Cd)

*These Waterbody Numbers are referenced throughout the Implementation Plan.

Action Plan for Suwanoochee Creek Watershed

Watershed: Suwanoochee Creek
HUC10: #0311020103

POLLUTANT:	SOURCE:	EFFECT:	WHAT CAN I DO?	
			At Home: Community, School	
<p> <input type="checkbox"/> Dissolved Oxygen (DO) <input type="checkbox"/> Fecal Coliform (FC) <input type="checkbox"/> Sediment <input checked="" type="checkbox"/> Metals Fish Consumption Guidelines (FCG) <input type="checkbox"/> Other (Please List) </p>	<p> <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Urban <input checked="" type="checkbox"/> Agriculture <input checked="" type="checkbox"/> Forestry <input checked="" type="checkbox"/> Residential <input checked="" type="checkbox"/> Other (Please List) </p> <p>High Ph in water and humus contributes to leaching of metals from soils that are susceptible to flooding and erosion during periods of heavy precipitation.</p> <p>Burning of household waste that contains metals and plastics.</p> <p>Mineral Fertilizers.</p> <p>Decomposing tobacco leaves.</p> <p>Industrial Operations.</p> <p>Illegal dumpsites</p>	<p> <input checked="" type="checkbox"/> Habitat <input checked="" type="checkbox"/> Recreation <input checked="" type="checkbox"/> Drinking Water <input checked="" type="checkbox"/> Aesthetics <input type="checkbox"/> Other (Please List) </p>	<p>Automotive Care:</p> <p>a. Regular maintenance, check for leaks, and the proper disposal of fluids at approved locations.</p> <p>b. Dispose of automobile fluids at approved sites.</p> <p>Lawn and Garden Care:</p> <p>a. Proper disposal of organic and non-organic yard by products.</p> <p>b. Proper precautions and correct usage of chemical and fertilizers.</p> <p>Household Cleaners:</p> <p>a. Proper disposal of household chemicals.</p> <p>b. Correct usage of chemicals.</p> <p>Spill/Discharge Control and Cleanup:</p> <p>a. Control and cleanup spills according to instruction of manufacture.</p> <p>Miscellaneous Product Care:</p> <p>a. Control and cleanup spills according to instruction of manufacture.</p> <p>Trash Pickup:</p> <p>a. Visually inspect containers and report damage or leaks</p> <p>b. Keep container secure at all times</p> <p>c. Ensure that trash is collected on a regular schedule.</p> <p>Battery Disposal:</p> <p>a. Dispose of all batteries at approved sites.</p> <p>Paint/Coating Disposal:</p> <p>Dispose of all coatings, paints, and pigments at approved sites.</p> <p>Metals:</p> <p>Dispose of all metals at approved sites.</p> <p>Plastics:</p> <p>Dispose of all plastics at approved sites.</p>	<p>Automotive Care:</p> <p>a. Regular maintenance of fleet vehicles, check for leaks and the proper disposal of fluids at approved locations.</p> <p>b. Dispose of all materials associated with the repair and maintenance of automobiles and other equipment at approved disposal sites.</p> <p>Lawn and Garden Care: Ensure that contracted lawn services adhere to:</p> <p>a. Proper precautions and correct usage of chemicals and fertilizers.</p> <p>Commercial Chemical Cleaners:</p> <p>a. Proper disposal of commercial chemicals.</p> <p>b. Correct usage of chemicals.</p> <p>c. Inform all employees of MDSS.</p> <p>Spill/Discharge Control and Cleanup:</p> <p>a. Control and cleanup spills according to instruction of manufacture.</p> <p>Trash Pickup:</p> <p>a. Visually inspect containers and report damage or leaks</p> <p>b. Keep container secure at all times</p> <p>c. Ensure that trash is collected on a regular schedule.</p> <p>Agriculture: Best Management Practices (BMPs)</p> <p>a. Waste storage structure-Utilize and store waste</p> <p>b. Filter Strips-Reduces soil erosion, and filters runoff.</p> <p>c. Fertilizer Management-Prevents over-application of fertilizer protects against soil contamination.</p> <p>Forestry: Best Management Practices (BMPs)</p> <p>a. Streamside Management Zones (SMZS)</p> <p>b. Road building-Prevents soil erosion</p> <p>Battery Disposal:</p> <p>a. Dispose of all batteries at approved sites.</p> <p>Paint/Coating Disposal:</p> <p>Dispose of all coatings, paints, and pigments at approved sites.</p> <p>Metals:</p> <p>Dispose of all metals at approved sites.</p> <p>Plastics:</p> <p>Dispose of all plastics at approved sites.</p>

INFORMATION/EDUCATION/OUTREACH ACTIVITIES

An education/outreach component will be used to enhance public understanding of and participation in implementing the TMDL Implementation Plan.

List of all previous and planned information/education/outreach activities.

Responsible Organization or Entity	Description	Impacted Waterbodies*	Target Audience	Anticipated Dates (MM/YY)
Southeast Georgia Regional Development Center, Fredrick E. Carpenter Jr.	Part V Ordinance/Regulation Review for Clinch County. Will assist South Georgia RDC in reviewing Echols County Part V Ordinances.	1	Local Government	02/2003
Coastal District EPD, Frank VanArsdale	Best Management Practices for Industry	1	Business Community	On-going
Coastal District EPD, Frank VanArsdale	Best Management Practices for Water Quality	1	Business Community	On-going
Georgia Forestry Commission, Stan Moore	Best Management Practices for Forestry	1	Forestry Industry	On-going
NRCS, 7 Rivers RC&D, Luther Jones	Best Management Practices for Agricultural	1	Farming Community	On-going
Southeast Georgia Regional Development Center (RDC), DNR/EPD	Southeast Georgia RDC is assisting local governments with a Water Committee. The Committee has been operational for 9 months. One project that the committee would like to undertake is an educational videotape for Residential and Urban BMPs. The committee believes that the key to quality water is behavior modification through education. This will be collaborative effort between DNR/EPD, Southeast Georgia RDC, Water Committee, and Local Governments.	1	Local Governments and Citizens	02/2004
Adopt-A-Stream	Will assist Al Browning in the introduction of the Adopt-A-Stream program into Clinch County, and Echols County. Mr. Al Browning is an Ecology teacher at Berrien County High School. He can be reached at (229) 686-7428.	1	Citizens	06/2004



STAKEHOLDERS

EPD encourages public involvement and the active participation of stakeholders in the process of improving water quality. Stakeholders can provide valuable information and data regarding their community and the impaired waterbodies and can provide insight and/or implement management measures.

List of local governments, agricultural organizations or significant landholders, commercial forestry organizations, businesses and industries, and local organizations including environmental groups and individuals with a major interest in this watershed.

Name/Organization	Address	City	State	Zip	Phone	E-Mail
Raymond James, Mayor	N/A	Argyle	GA	31623	(912) 487-2270	N/A
John W. Strickland, Chairperson	100 Court Square	Homerville	GA	31634	(912) 487-2667	N/A
Wayne Kilmark, Waycross-Ware Planning Commission	902 Grove St.	Waycross	GA	31502	(912) 287-4379	jshubert@warecounty.com
Fredrick E. Carpenter Jr., Southeast Georgia RDC	1725 South Georgia Parkway, West	Waycross	GA	31502	(912) 285-6097	fecsegardc@accessatc.net
Bill Wikoff, International Paper	6508 New Jesup Highway	Brunswick	GA	31523	(912) 265-1378	Bill.wikoff@ipaper.co
James Rouse, Rayonier	Rt.1 Box 19-B	Homerville	GA	31634	(912) 487-5912	jrouse@rayonier.com
Al Browning, River Keepers	P.O. Box 523	Nashville	GA	31702	(229) 686-2821	Labfarm1@yahoo.com
Bob Kenny, SMURFIT-Stone Container Corporation	Hwy 84E	Homerville	GA	31634	(912) 285-4087	bkenny@smurfit.com
Lamar Raulerson, Chairman, Echols County	P.O. Box 190	Statenville	GA	31648	(229) 559-7844	
Rory Richardson, NRCS District Conservationist	327 W. Savannah Ave.	Valdosta	GA	31601	(229) 242-0575 Ex. 3	
Russ Hamlin-Echols County Extension Coordinator	109 Courthouse Street	Statenville	GA	31648	(229) 559-5562	
Bobby Mathis, GFC	3011 US HWY 84E	Valdosta	GA	31606	(229) 333-7817	bmathis@gfc.state.ga.us

WATER BODIES/STREAMS COVERED IN THIS PLAN



These impaired streams are located in the same sub-basin identified by a HUC10 code. Most of the information contained in this section comes from the 303(d) list and has been completed by employees of the EPD Water Protection Branch. Data that placed the streams on the 303(d) list will be provided upon request.

Waterbody Name #1	Location	Miles/Area Impacted	Use Classification	Partially Supporting/ Not Supporting (PS/NS)
Suwanneechee Creek	Lee's Bay to Suwannee River	11 miles	Fishing	NS
Primary County	Secondary County	Second RDC		Source (Point/ Nonpoint)
Clinch	Echols			Nonpoint
Pollutants	Water Quality Standards	Required Load Reduction	TMDL ID	Date TMDL Established
Cadmium (Cd)	Chronic: 0.37 (µg /L)	83%		June 2000
	Acute: 0.82 (µg /L)	61%		

TOC=Total Organic Carbon (lb/yr), TN=Total Nitrogen (lb/yr), TP=Total Phosphorus (lb/yr)

POLLUTANT SOURCES



It is important to recognize the potential source(s) causing water quality impairment. Each source must be controlled to comply with target TMDL/Load Allocations for each pollutant. Included is a description of how the sources contribute to the impairment and the waterbody that is impaired.

List of major nonpoint source categories and sub-categories or individual sources (Urban Runoff, Agriculture, Forestry, Municipal Sewage Treatment Plant)

Pollutant	Sources of Pollutants	Description of Contribution to Impairment	Impacted Waterbodies*
Cd	Chemical/Fertilizer Applications, Silvicultural, and Farming application of chemicals by aerial and broadcast means.	Mineral fertilizers contain Cadmium. Over fertilization contributes to excessive metals in soils, which during periods of heavy precipitation or excessive watering, leaches into waterways. Cadmium can be transport by waterways up to 50 kilometers.	1
Cd	Contaminated Humus	Contaminated humus enters waterways during heavy precipitation due to storm water runoff.	1
Cd	Rural Development	Unchecked runoff through stormwater sewers: (1) Discharges of sanitary waste and (2) Improper disposal of waste materials.	1
Cd	Land Disturbing Activities	Unchecked runoff from developing/developed sites: (1) Discharges of sanitary waste, (2) Improper disposal of waste materials and (3) Introduction of humus into waterways.	1
Cd	Forested Woodlands	Heavily forest and wetland often contribute to high Cd due to high Ph. High Ph causes excessive leaching of humus, thence exposing the metals to the elements to be introduced into waterways by wind, and/or storm water runoff. Usually reduction in natural forest or wetlands contributions is not feasible, practicable, or desirable through conventional best management practices.	1
Cd	Land Disturbing Activities: (1) Construction Sites, (2) Infrastructure Development and Maintenance	Uncheck runoff from construction sites: (1) Leaking portable waste containers, (2) Improperly disposed waste materials, and (3) Introduction of sediments into waterways	1
Cd	Spill/Discharges of Raw Sewage	Spillage, unauthorized discharges, and cleansing of contaminated waste vehicles. These untreated materials are left on the surface to be introduced into the drainage system or waterway by precipitation or during the cleansing of equipment or collection apparatuses or containers.	1
Cd	Improper Methods of Trash Collection and Disposal	Spillage and incorrect disposal techniques place substances on surfaces to be washed into waterway during precipitation.	1
Cd	Collection and Disposal of Petroleum Products and Materials related to the repair of Gasoline and Diesel Equipment.	Fluids and materials associated with mechanical repairs and chemical absorbent materials that are not properly disposed of are left on surfaces to be washed into drainage system or waterways.	1

Pollutant	Sources of Pollutants	Description of Contribution to Impairment	Impacted Waterbodies*
Cd	Protective coatings and/or coverings on metals, and plastics.	Metal coatings contain metals in the pigment and/or coating material. Manipulation of the coating exposes the metals contained in the pigment to the elements. It is the exposure to elements by which the metals are introduced into the environment by either precipitation or wind.	1
Cd	Decomposing Tobacco Products	Tobacco products are exposed to the elements and enter waterways by either storm water runoff and/or wind.	1



MANAGEMENT MEASURES, MEASURABLE MILESTONES AND SCHEDULE

(i.e. Local codes and ordinances, Erosion and Sedimentation Control, Storm Water Management, local water resource monitoring)

The following table lists management measures that have been or will be implemented to achieve water quality standards and the load reductions established in the TMDL. The management measures, including regulatory or voluntary actions or other controls by governments or individuals, specifically apply to the pollutant and the waterbody for which the TMDL was written. A description is provided of how these management measures are/will be accomplished through reliable and effective delivery mechanisms, and how these management measures are/will help achieve the target TMDL. Included is the source of the pollutant, anticipated/past effectiveness of the management measure (very effective, somewhat effective, not effective), the current status (i.e. enforced, in-progress, planning), and measurable milestones and schedule. Milestones are used to show development in attaining water quality standards and to determine whether management measures are being implemented.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Georgia Water Quality Control Act Georgia Erosion & Sedimentation Act Georgia Comprehensive Planning Act Georgia River Basin Management Planning Act	Georgia DNR EPD	Laws authorizing Georgia EPD to control water pollution, eliminate phosphate detergents and regulate sludge disposal; to prohibit siltation of state waters by land disturbing activities and require undisturbed buffers along state waters; to require land-use plans that include controls to protect drinking water supply sources and wetlands; to require river basin management plans on a rotation schedule for all major river basins.	11/1964	Enforced	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Cd	Ungoverned point source discharge and non-point source runoff pollution loads.	1	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Compliance with regulations to control water pollution including identification and implementation of Best Management Practices.	11/1964	Continuous	N/A

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Herbicide and Pesticide Poison Care Disposal and Management Program	Individual	Encourages individuals to properly dispose of dangerous chemicals	2005	Planning	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Cd	Non-commercial and commercial application of Herbicides and Pesticides.	1	Effective if BMP is implemented

Measurable Milestones	Schedule		Comments
	Start	End	
Reduction in the measurable amount of Cd in impacted waterways.	2005	Continuous	University of Georgia Extension Agent must provide educational opportunities if BMP is to become effective.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Stream Management Zones	Georgia Forestry Commission	Encourages Forest Production Operator to Plan and Implement strategies to prevent sediments, fluids, and nutrients from entering waterway.	1993	In-Progress	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Cd	Fluids, excessive nutrients and organic materials	1	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Reduction in the measurable amount of Cd in impacted waterways.	1993	Continuous	N/A

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Agricultural Best Management Practices (BMPs)	NRCS (7 Rivers RC&D) and University of Georgia Extension Service	Leads effort in agricultural water quality program, develops agricultural BMPs educational and monitoring efforts.	1987	In-Progress	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Waterbodies* Impacted	Anticipated or Past Effectiveness
Cd	Animal facility runoff, pesticide/herbicide management, irrigation runoff management and manure applications.	1	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Reduction in the measurable amount of Cd in impacted waterways.	1987	Continuous	NRCS and University of Georgia Extension Agent must provide continuous opportunities if BMP is to remain effective.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Forestry Best Management Practices (BMPs)	Georgia Forestry Commission	BMP categories include planning for water quality, SMZs, road location, construction, stream crossing and maintenance, timber harvesting, site preparation/reforestation and management/protection.	1999	In-progress	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Cd	Forestry	1	Effective

Measurable Milestones	Schedule	Comments
Reduction in the measurable amount of Cd in impacted waterway.	Start: 1999 End: Continuous	Georgia Forestry Commission must continuously provide education opportunities for foresters if BMPs are to remain effective.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Power Equipment, Commercial, Industrial, and Personal Product Care Disposal and Management Program	Individual	Encourages individuals to properly dispose of materials that are related to the repair and routine maintenance of power equipment.	2002	On-going	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Cd	Equipment cleansing, mechanical repairs and maintenance shops, and individual home auto maintenance and/or repair.	1	Effective

Measurable Milestones	Schedule	Comments
Reduction in the measurable amount of Cd in impacted waterway.	Start: 2002 End: Continuous	Local auto part houses encourage and provide opportunities for individual to dispose of fluids and materials that cannot be disposed of by normal fluid or trash disposal methods.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
House Cleaner Disposal and Management Program	Individual	Encourages individuals to properly dispose of household chemicals	2005	Planned	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Cd	Household chemicals	1	Effective if program is implemented

Measurable Milestones	Schedule		Comments
	Start	End	
Reduction in the measurable amount of Cd in impacted waterway.	2005	Continuous	Waste Disposal Company (Southland Waste Inc.) must encourage individuals to properly secure and dispose of household chemicals

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Spill/Discharge Control and Cleanup Program	Individual	Encourages individuals to cleanup or control and to report spills.	12/2004	Planning	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Cd	Surface Spills or Uncontrolled Discharges	1	Effective is BMP is implemented

Measurable Milestones	Schedule		Comments
	Start	End	
Reduction in the measurable amount of Cd in impacted waterway.	12/2004	Continuous	University of Georgia Extension Agent must provide educational opportunities if BMP is to become effective.

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Storm Water Pollution Prevention Plan (SWPPP)	Southeast Georgia RDC, Coastal Conservation Resources, and NRCS	Storm water runoff is part of a natural hydrologic process. However, human activities, particularly urbanization and associated industrial activities, can alter natural drainage patterns and add pollutants to rivers, and streams. Impact is a decline in fish and restrictions on swimming.	01/2003	Planning	Voluntary

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Cd	Storm Water Run Off	1	Effective if BMP is implemented

Measurable Milestones	Schedule		Comments
	Start	End	
Reduction in the measurable amount of Cd in impacted waterway.	01/2003	Continuous	Southeast Georgia RDC will, with the assistance of Coastal Conservation Resources, and NRCS, seek funds to assist Clinch and Echols County in the development of Storm Water Pollution Prevention Plan (SWPPP)

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Georgia Air Quality Act	Georgia EPD	Public Policy of the State of Georgia to preserve, protect, and improve air quality and to control emission to prevent the significant deterioration of air quality.	1990	In-progress	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Cd	Non-commercial and commercial incineration of metals to remove coverings	1	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Compliance with regulations to control air pollution.	1990	Continuous	N/A

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Georgia Comprehensive Solid Waste Management Act	Georgia EPD	Public Policy of the State of Georgia to protect the public health of the citizens and to enhance the quality of the environment.	1990	In-progress	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Cd	Incorrect methods and/or techniques use to collect, treat, reuse, recycle and dispose of solid waste.	1	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Compliance with regulations to control solid waste including identification and implementation of Best Management practices.	1990	Continuous	N/A

Regulation/Ordinance or Management Measure	Responsible Government, Organization or Entity	Description	Enacted/Projected Date	Status	Regulatory/Voluntary
Georgia Hazardous Waste Management Act	Georgia EPD	Public Policy of the State of Georgia to preserve and protect the citizens of Georgia; enhance the quality of Georgia's environment through the regulation of the generation, transportation, storage, treatment, and disposal of hazardous wastes.	09/2002	In-progress	Regulatory

Pollutant(s) Affected	Sources of Pollutant(s)	Impacted Waterbodies*	Anticipated or Past Effectiveness
Cd	Non-containment of leakage/spillage; incorrect methods of disposal, storage, transportation; and excessive generation of waste.	1	Effective

Measurable Milestones	Schedule		Comments
	Start	End	
Compliance with regulations to control hazardous waste including identification and implementation of Best Management practices.	09/2002	Continuous	N/A

POTENTIAL FUNDING SOURCES



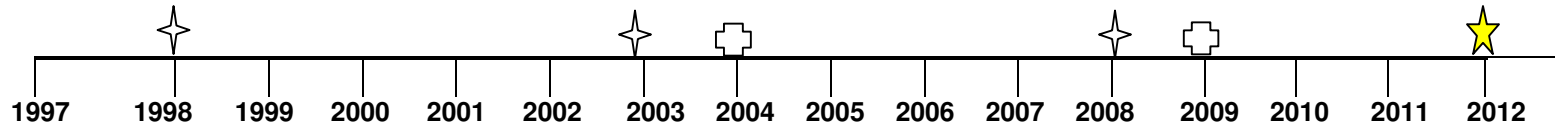
The identification and discussion of dedicated funding is important in determining the economic feasibility of the above-mentioned management measures.

Funding Source	Responsible Authority	Status	Anticipated Funding Amount	Impacted Waterbodies*
Section 319 (h) of the Clean Water Act	EPA/State of Georgia	Must Apply	N/A	1
Small Business Technical Assistance Program	Georgia Department of Natural Resources (EPD)	Must Request Assistance	Undetermined-Free Technical Assistance	1
Environmental Quality Incentive Program (EQIP)	NRCS	Must Apply	N/A	1
Unified Watershed Assessment program	NRCS	Must Apply	N/A	1
Conservation Reserve Enhancement Plan	NRCS	Must Apply	N/A	1
Section 604(b) Grants	Georgia Department of Natural Resources	Must Apply	N/A	1

PROJECTED ATTAINMENT DATE



The projected date to attain and maintain water quality standards in this watershed is 10 years from acceptance of the TMDL Implementation Plan by EPD.



EPD Monitoring 
Evaluate TMDL & Attainment Date 
Project Attainment 



MONITORING PLAN

The purpose of this monitoring plan is to determine the effectiveness of the target TMDL and the management measures being implemented to meet water quality standards. List of previous, current or planned /proposed sampling activities or other surveys. Monitoring data that placed stream on 303(d) list will be provided if requested.

Name of Regulation/Ordinance or Management Measure	Organization	Impacted Waterbodies*	Pollutants	Purpose/Description	Time Frame		Status (Previous, Current, Proposed)
					Start	End	
TMDL Evaluation/Monitoring Data	GA EPD/USGS	1	Cd	TMDL Evaluation /Monitoring data for Georgia 305(b)/303(d) List	1998	1998	Previous
Water Quality Testing	GA EPD	1	Cd	Water Quality Testing/Assessment of water quality.	2003	2003	Proposed
TMDL Evaluation	GA EPD/USGS	1	Cd	Monitoring data for GA 305(b)/303(d) list	1998	1998	Previous
Storm Water Pollution Prevention Plan	Southeast Georgia RDC, NRCS and Coastal Conservation Resources	1	Cd	Southeast Georgia RDC will, with the assistance of Coastal Conservation Resources and NRCS, seek funds to assist local governments in the development of Storm Water Pollution Prevention Plan (SWPPP).	01/2003	01/2004	Proposed
Water Quality Testing	Adopt-A-Stream	1	Cd	Water Quality Testing/Assessment of water quality.	8/2003	Continuous	Proposed

CRITERIA TO DETERMINE WHETHER SUBSTANTIAL PROGRESS IS BEING MADE



The following set of criteria will be used to determine whether any substantial progress is being made towards reducing pollutants in impaired waterbodies and attaining water quality standards. Discussion on each criterion is recorded in the space provided. Additional relevant criteria are presented in Comments.

- Percent of concentration or load change (monitoring program) _____

- Categorical change in classification of the stream (delisting the stream is the goal) _____

If monitoring results show that it is unlikely that the TMDL will be adequate to meet water quality standards, revision of the TMDL may be necessary.

- Regulatory controls or activities installed (ordinances, laws) _____

- Best management practices installed (agricultural, forestry, urban) _____

COMMENTS

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Environmental Protection Division of the Department of Natural Resources,
State of Georgia.

TOGETHER WE CAN MAKE A DIFFERENCE!



Department Use Only:

Implementation Plan	Impaired Waterbodies			
	1	2	3	4
Action Plans				
Education/Outreach Activities				
Stakeholders				
Pollutant Sources Identified				
Description of Management Measures				
Measurable Milestones and Schedule				
Potential Funding Sources				
Monitoring Plan				
Criteria To Determine Whether Substantial Progress Is Being Made				
Supporting Documents				